BTEC Assignment Brief

Qualification	Pearson BTEC Level 3 National Diploma in Engineering Pearson BTEC Level 3 National Diploma in Electrical/Electronic Engineering Pearson BTEC Level 3 National Diploma in Computer Engineering Pearson BTEC Level 3 National Extended Diploma in Engineering Pearson BTEC Level 3 National Extended Diploma in Electrical/Electronic Engineering Pearson BTEC Level 3 National Extended Diploma in Computer Engineering
Unit number and title	Unit 37 – Computer Networks
Learning aim(s)	Learning Aim C: Develop a secure computer network infrastructure to meet a client brief
Assignment title	Building secure computer networks
Assessor	
Issue date	
Hand in deadline	

Vocational Scenario or Context	You have been employed as a Network Engineer at a small engineering company that has just been awarded a major lucrative government contract. You have been tasked with building and testing a secure computer network infrastructure to meet the requirements of this contract. Using your designs developed in assignment B, implement the secure computer network.

Task 1	Using your designs developed in assignment B, build a secure computer network according to the client brief. Create the first server in your designs. During the construction of the server consider: • Physical structure to support a larger system • Connection to external network • User authentication server (to support at least 4 user accounts) • File and print service • IP scheme to identify and segregate different locations Install security features and resources on your server. Ensure you have implemented and documented: • User policy agreements • Firewall • Anti-malware applications (including maintenance) • Device hardening • Use authentication (strength) • Encryption services

	Test that your server meets the user requirements. Develop test criteria for your server, performance user acceptance testing and carry out the sign off procedure. Ensure your testing includes: • Communications (wired/wireless) • Load Testing • Client connection • Use and utilisation of services • Client authentication • Security – penetration testing and sniffing After your testing is complete make any amendments to optimise the effectiveness in meeting the client brief originally given in assignment B. Summarise your testing and optimisation with a report on the effectiveness of the system, and how it meets the client brief.
Checklist of evidence required	Observation reports, witness statements and photographs and screenshots of the network in operation. Testing checklist and observation reports, and a summary report.

Criteria covered by this task:	
Unit/Criteria reference	To achieve the criteria you must show that you are able to:
C.P5	Build a secure computer network safely
C.P6	Test that the computer network functions, repairing any faults
C.M3	Develop a secure, functional and computer network safely that meets the client brief.
C.D3	Optimise the effectiveness of a safely developed and functional computer network in terms of meeting the client brief, performance and security protection measures.

Other assessment materials attached to this Assignment Brief	*The client brief part of assignment B.*

Note to assessor:

Scenario	If resources are limited, the learner could implement the new server on a Virtual Machine.